

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-3 (Canceled)

4. (Currently Amended) A method of identifying molecules, comprising:
modifying a friction coefficient of a carbon nanotube;
attaching the carbon nanotube to a reactive molecule;
selecting the carbon nanotube as a result of preferential interaction between the reactive molecule and a sample molecule;
placing the selected carbon nanotube on a substrate; and
measuring friction characteristics of the substrate and the carbon nanotube using a separate friction measuring device to detect the carbon nanotube.
5. (Withdrawn) The method of claim 4, wherein the sample molecule includes a DNA molecule.
6. (Original) The method of claim 4, wherein the reactive molecule includes an assay molecule.
7. (Original) The method of claim 4, wherein the operations are performed in the order presented.
8. (Original) The method of claim 4, wherein the friction coefficient of the carbon nanotube is modified after the carbon nanotube is attached to the reactive molecule.
9. (Original) The method of claim 4, wherein modifying the friction coefficient of the carbon nanotube includes increasing the friction coefficient of the carbon nanotube.

10. (Original) The method of claim 4, wherein modifying the friction coefficient of the carbon nanotube includes acid treating the carbon nanotube.

11. (Original) The method of claim 4, wherein modifying the friction coefficient of the carbon nanotube includes attaching a chemical species to the surface of the carbon nanotube.

12. (Original) The method of claim 11, wherein attaching a chemical species to the surface of the carbon nanotube includes attaching a carboxylic acid group to the surface of the carbon nanotube.

13. (Currently Amended) The method of claim 4, wherein measuring friction characteristics of the substrate and the carbon nanotube using a separate friction measuring device includes atomic force microscopy (AFM) measurements of the friction characteristics of the substrate and the carbon nanotube.

Claims 14-17 (Canceled)

18. (Currently Amended) A molecular identification assembly, comprising:
a reactive molecule;
a carbon nanotube attached to the reactive molecule; and
a chemical modifier attached to ~~the carbon nanotube~~ a portion of the carbon nanotube separate from the reactive molecule, the chemical modifier altering the friction coefficient of the carbon nanotube.

19. (Original) The molecular identification assembly of claim 18, wherein the reactive molecule includes an assay molecule.

20. (Withdrawn) The molecular identification assembly of claim 19, wherein the assay molecule is adapted to combining with portions of a DNA molecule.

21. (Original) The molecular identification assembly of claim 18, wherein the chemical modifier includes a carboxylic acid group.
22. (Original) The molecular identification assembly of claim 18, wherein the friction coefficient is increased.
23. (Original) The molecular identification assembly of claim 18, wherein the friction coefficient is decreased.
24. (Currently Amended) A method of forming a molecular identification assembly, comprising:
modifying a friction coefficient of side surfaces of a carbon nanotube; and
attaching the carbon nanotube to a reactive molecule.
25. (Withdrawn) The method of claim 24, wherein attaching the carbon nanotube to the reactive molecule includes attaching the carbon nanotube to an assay molecule adapted for combining with portions of a DNA molecule.
26. (Original) The method of claim 24, wherein modifying the friction coefficient of the carbon nanotube includes increasing the friction coefficient of the carbon nanotube.
27. (Original) The method of claim 24, wherein the operations are performed in the order presented.
28. (Original) The method of claim 24, wherein the friction coefficient of the carbon nanotube is modified after the carbon nanotube is attached to the reactive molecule.
29. (Original) The method of claim 24, wherein modifying the friction coefficient of the carbon nanotube includes acid treating the carbon nanotube.

30. (Original) The method of claim 24, wherein modifying the friction coefficient of the carbon nanotube includes attaching a chemical species to the surface of the carbon nanotube.

31. (Original) The method of claim 30, wherein attaching the chemical species to the surface of the carbon nanotube includes attaching a carboxylic acid group to the surface of the carbon nanotube.